

Expanded Economic Opportunities Program/USAID Lebanon



SMART Quarterly Report of the YMCA December 2003 to February 2004

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Expanded Economic Opportunities Program/USAID Lebanon Quarterly Progress Report of the YMCA

Cooperative Agreement No: 268-A-00-03-00204-00

Program Title: The SMART Program
Stimulating Markets and Rural Transformation

Grantee: YMCA of the USA/ YMCA of Lebanon

Reporting Period: December 1st 2003 – February 28, 2004

A. Results Achieved

The SMART program has had significant achievements during the first reporting period of the second year of the program despite two major sources of delay. The first source was the harsh weather conditions, mainly heavy rain and snow, which delayed construction works in several sites. The second delay was due to the upcoming municipal elections. Municipal councils, often the major partners in the program implementation, are basically paralyzed at the moment since they are not allowed to allocate new resources for spending to undertake new endeavors. The municipalities are only able to carry out daily regular administrative tasks until new councils are elected. Such static councils have caused the postponement of decisions related to mobilization of local resource contributions towards SMART in locations such as Khirbet Anafar, and Mansourah, Kobayat.

- 1. Increased Number of Jobs Created in Agriculture.** YMCA sustained 438 jobs and created four new ones. The number of jobs shall increase significantly as soon as more centers are completed in terms of physical works and equipment. This achievement is in addition to the indirect jobs created by contracting construction works (each site requires around 20 workers),
- 2. Increase in Local Production and Processing.** During the reporting period, the centers produced 8,238 Kgs of processed food worth \$34,392. This production required 8,223 Kgs of raw material worth \$4,200.
- 3. Increase in Agricultural Exports.** Exports during this reporting period amounted to \$30,843
 - Germany: \$ 2,280
 - Kuwait: \$28,563
- 4. Improved Agricultural Production Processes.** Although production follows the highest standards of HACCP and good manufacturing practices, production processes are

being revised to meet the toughest food requirements around the world. As such recipes are being evaluated and modified in order to improve the taste and extend the shelf life of the products—while retaining the commitment to ensure that all ingredients are all natural and preservative free. To achieve this result, a specialized food technologist-chemist was recruited to improve the existing recipes and explore the possibility of introducing new ones or even new processing lines such as powdered products. Detailed information is included in the section 6 – Building the Capacity of Atayeb al Rif.

- 5. Increased Capacity Building and Training in Agriculture.** Five training sessions were held. An additional 164 people were trained to be included with the 593 individuals that have been trained previously. The total cumulative number of trained people is 747 women and 2 men.
- 6. Number of New Marketing Outlets Accessed.** Serious negotiations are ongoing in order to secure a new distribution agreement. During the reporting period, on the local level, one new outlet was added to the original 104. Therefore the total number of outlets is 105.
- 7. Increase in the Number of Cooperatives Registered in the Rural Areas.** 14 cooperatives were formed earlier. Nine additional centers have recently submitted the required documents to the Ministry of Housing and Cooperatives to establish their own cooperatives.
- 8. Clients Using Microfinance.** One additional cooperative comprised of 30 women is benefiting from access to loans to secure the necessary funds for its contribution and production. The value of the loan is around \$37,000 from Caritas, CLD and personal lenders. In total, 6 cooperatives comprised of 170 women are benefiting from loans accruing to a total value of \$108,369.
- 9. Fostering Strategic Alliances.** Atayeb Al Rif is planning to participate in the Fancy Food Show in New York in June 2004. To that effect, YMCA has requested SRI's assistance to secure this opportunity to expand Atayeb Al Rif's outreach and market.

Furthermore, YMCA is currently negotiating the terms of a possible collaboration with the Lebanese University in order to design, manufacture and maintain food processing equipment. Such collaboration will benefit both parties: SMART will be able to requisition specially adapted machines to its processing centers at relatively low costs, while enabling the Lebanese University professors and students to have the opportunity to apply their knowledge, creativity, and skills into effect.

Table 1 – QPR 1 – 2nd year indicators

Indicator	Weight	Baseline Year	Baseline Year Data	FY 2003 Target	FY 2003 Actual	QPR 1 – 2 nd year
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New jobs created (#)	2	2002	400	595	438	442
Agriculture extension service centers established in growth poles (Number)	3	2002	12	16	14 + 2 ongoing	14 + 9 ongoing
Beneficiaries of agricultural capacity building activities (Number)	4	2002	400	595	593	749
People annually accessing agricultural extension center services (Number)	3	2002	NA		875	875
Cooperatives annually accessing microfinance services (Number)	4	2002	NA		5	6
Individuals annually accessing credit services (Number)	4	2002	NA		140	170
Micro-finance and credit investment (\$value)	4	2002	NA		71369	108369
New jobs created in Agri-business/Agro-industry (number)	3	2002	400	595	438	442
New jobs for Males (number)	3	2002			24 + 80 indirect	4 + 60 indirect
New jobs for females (number)	3	2002	400	595	414	416
Increase in agricultural exports (\$ value)	2	2002	137208		25624	30843
Increase in local agricultural sales (\$ value)	2	2002			208131	60578
Increase in local processing & production (\$ value)	3	2002			238949	34392
Marketing standards adopted (number)	2	2002	6		6	6
Certifications acquired (number)	3	2002	1		2	2
New marketing outlets accessed (number)	2	2002	48		104	105
ICT applications developed in targeted sectors (Number)	2	2002			1 ongoing	1 ongoing
New cooperatives registered in growth poles (number)	3	2002	12	16	14 + 2 ongoing	14 + 9 ongoing
Average annual sales per cooperative (\$ value)	3	2002			9155	
Additional annual income per agricultural beneficiary (\$ value)	3	2002	1068	1176	972	

B. Detailed Activities during the Reporting Period

1. Physical Rehabilitation and Initiation of Processing Centers

During the past three months, YMCA has:

- Completed the construction and rehabilitation of 13 centers: Ain Ebel, Arnoun, Beit el Fakess, Beit Shlela, Deir Qanoun el Naher, Dhaira, Fakiha, Kfardebian, Ksaybeh, Tekrit, Wadi Chahrour, Wadi el Arayesh and Zghorta
- Begun constructing and rehabilitating another three centers: Deir Qanoun Ras el Ain, El Ain and Kartaba. Most works in all three centers will finish by mid April 2004
- Initiated 17 centers whether in terms of designs preparations, legal papers completion or bidding for contractors.

Table 2 – Centers Construction/Rehabilitation Status

Center	Caza	Physical Works Status – Construction and Rehabilitation
Aayha	Bekaa	legal papers under preparation
Deir el Ahmar		bids will open 8-3-2004
El Ain		90% complete
Fakiha		Complete
Fourzol		bids will open 4-3-2004
Khirbet Kanafar		municipality will build a new center
Mansourah		problem between coop and municipality, pending elections
Wadi el Arayesh		Complete
Bater	M.L.	Community Contact initiated, negotiating center location
Kartaba		should finish by march 25
Kfardebian		Complete
Lehfed		community contract to be signed
Aandkit	North	location ok, designs to be approved by the owner
Abdilleh-Sghar		Location approved, preparing centers designs
Beit el Fakess		Complete
Beit Mellat		contract to be signed, contribution to be secured
Beit Shelala		Complete
Fneydek		very small center 100 m2
Karm Saddeh		location ok, contract to be signed
Kobayat		location ok, municipality will build
Tannourine		location still pending, to check on two new centers
Tekrit		Complete
Zghorta	Nabatiyeh	Complete
Ain Ebel		Complete
Arnoun		Complete
Chakra		designs under preparation
Debel		location ok, contract and designs being prepared
Ibel el Saki		location ok, contract to be signed
Kfarsyr		bids for contractor opened

Khelwat		Rehabilitation works of the old center will begin soon
Ksaybeh		Complete
Rmeish		municipality will build a new center
Zraryeh		awaiting new municipality to check for contribution
Deir Qanoun el Naher	South	Complete
Deir Qanoun Ras el Ain		40% complete should finish by April 30
Dhaira		Complete
Leb'a		Center's location secured, community contribution under negotiation
Wadi Chahrour	Beirut	Complete

1. Aayha

Legal papers to lease the proposed center to the women beneficiaries are being prepared by the property owner.

2. Deir el Ahmar

Designs of the center were completed. The bids will be opened to award a contractor the construction tasks.

3. El Ain

The center is 90% complete. Weather delays were incurred. Construction works are expected to finish by March 15, 2004.

4. Fakiha

The center is complete. Equipping the centers is ongoing in terms of identifying proper machines, finalizing the specifications and looking for suppliers to bid for procurement.

5. Fourzol

Designs of the centers are completed. The bidding process is open for awarding a contractor for the construction tasks.

6. Khirbet Kanafar

Contacts were established with the local community that expressed willingness to participate and contribute towards the program. The municipality in the village will build a new center (only roof and pillars); while the YMCA will complete all construction works thereafter. Construction works are pending the municipal elections.

7. Mansourah

The local community has expressed its readiness to contribute towards the program; nonetheless, the municipality has been hindering progress. The problem is pending the municipal elections to resolve the situation.

8. Wadi el Arayesh

The center is complete and in the phase of being equipped.

9. Bater

The program was explained to the local community and was welcomed in principle. Negotiations are ongoing to finalize all issues related to the proposed center (legal and tentative designs)

10. Kartaba

Construction works are ongoing despite severe weather delays. Expected date of completion is end of March.

11. Kfardebian

Construction works are over. Contacts with the cooperative and the women will be established in order to decide on the center's equipment.

12. Lehfed

The local community has been contacted. The community has approved the program concept and is now preparing the legal papers defining the scope and scale of their contribution.

13. Aandkit

Location for the center has been secured. The designs have been completed, but need to be approved by the building's owner.

14. Abdilleh-Sghar

The location of the center has been secured. The YMCA is currently preparing the designs and setting the specifications of the equipment to be installed.

15. Beit el Fakess

The center is complete and in the process of being equipped.

16. Beit Mellat

Negotiations with the local community are ongoing in order to secure a location for the proposed center and contribution.

17. Beit Shlela

The center is complete and in the process of being equipped.

18. Fneydek

The center's location has been secured. The designs are being prepared and the center's future specialization is being refined.

19. Karm Saddeh

The location has been secured yet awaiting the local community to finalize the necessary legal papers with regard to property ownership and rent.

20. Kobayat

The municipality in Kobayat will build a roof and pillars, whereby YMCA will continue all construction works. Construction works are now pending the municipal elections.

21. Tannourine

Contacts with the local community have been ongoing in order to secure a location for the proposed center.

22. Tekrit

The center is complete. Preparations for equipping the center are ongoing.

23. Zghorta

The center is complete. The cooperative in Zghorta has installed the old equipment and has begun production for the 2004 season. New equipment will be installed in the next 45 days.

24. Ain Ebel

The center is complete. New equipment will be installed in the next 45 days.

25. Arnoun

The center is complete and in the process of being equipped.

26. Chakra

The center's location has been secured, and the contract with the local community has been signed. Designs are being prepared.

27. Debel

The center's location has been secured. The designs and legal papers are being prepared.

28. Ibel el Saki

The center's proposed location has been approved. The legal papers with the local community are still being prepared.

29. Kfarsyr

Bidding for contractors to undertake the construction works has been opened.

30. Khelwat

Rehabilitation works for the old center will be initiated shortly

31. Ksaybeh

The center is complete and in the process of being equipped.

32. Rmeish

The municipality of Rmeish has agreed to build a new center (only roof and pillars) as part of their local contribution towards the program. The construction works are pending the municipal elections.

33. Zraryeh

The final decision on the location of the center and the size of the local contribution is pending the municipal elections.

34. Deir Qanoun el Naher

The center is completed and in the process of being equipped.

35. Deir Qanoun Ras el Ain

The center is 40% complete. Construction works will end by April 30 2004.

36. Dhaira

The center is complete and in the process of being equipped.

37. Lebaa

The center's location is being finalized. Contribution is still being negotiated with the local community.

38. Wadi Chahrour

The new centralized location of Atayeb Al Rif has been completed. The staff moved in and the stock was relocated to the warehouse facility. The center is in the process of being equipped.

2. Training of Women

YMCA trained 747 women and two men which includes the 164 additional new trainees from the last reporting period in December. Training consisted of five sessions. Three sessions on basic food processing skills and elementary marketing and management tools took place in Debel, Kfarsyr and Zraryeh. One session consisted of a refresher course in Dhaira, and the last session aimed at improving the IT and computer skills of Atayeb Al Rif staff in order to foster the marketing cooperative human resources skills and enhance its performance.

Table 3 – Training Sessions

Center	Topic	Number of Trained Women	Number of Trained Men
Debel	Comprehensive	38	0
Dhaira	Refresher	16	0
Kfarsyr	Comprehensive	63	0
Wadi Chahrour	IT	6	2
Zraryeh	Comprehensive	39	0
Total		162	2

The YMCA is currently preparing three training sessions that will involve a minimum of 20 women per session and will start as of mid March 2004.

3. Rehabilitation of Farms for High Value Marketability Products

Five farms are being initiated preserving the same principles of income generation, yet using a different approach based on agricultural production rather than food processing.

Dhaira Farm – South

The farm is already set up and producing mushrooms. The oyster mushroom is sold to Daccache Green Line at a retail price of around \$15 per kilogram. The first production of white mushroom is giving results at present..

Kartaba Farm – Mount Lebanon

The farm as a physical space is ready for planting and production. New varieties of rootstocks will be procured from the USA. Quotation offers have been released in the States and distributed to 19 nurseries. Replies haven't been sent yet.

Rootstocks to be procured:

- **Apples:** Fuji, Granny smith, Golden delicious, Smoothee, Topspur, Red winter, Ace, Mondial Gala, ERO, early gold, Lys golden
- **Pears:** Cascade, Homored, William's Dr Jules Guyot, conference, packham's triumph, Tosca, Doyenne du Comice
- **Cherries:** Duroni, Van, Noire de Meched, Sweetheart
- **Apricots:** Early blush, Goldrich, Hargrand, Orangered, Soledare, Berga Rouge
- **Plums:** Prune d'ente, Stanley, Spurdente, Reine Claude
- **Nectarines:** Topaze, Jade, Turquoise, Nectaross, August Red, September Star
- **Peaches:** Crimson Lady, Maycrest, Diamond Princess, Gypse, Onyx, Ivoire

Table 4 - Rootstocks Quantities to be Ordered

Fruit Trees	Rootstock Type	Quantities Planted
Peaches		
Nectarines		
Cherries		

Deir Qanoun Ras el Ain Farm – South

Preparation of the farm for production is in its final phases. A generator is procured to secure a power source to the plot. A production schedule is set and is estimated to begin at the end of March 2004.

Mansourah Farm – Bekaa

The Mansourah farm is intended for bamboo production using water from treatment plants. The produced reed and bamboo will be utilized in traditional handcraft works and used for ornamental and decorative purposes.

Contacts with the local community have been established, the land was secured and the legal papers and contracts are being prepared to be signed by the local community and municipality. Negotiations with a topographer are ongoing to put proper designs for landscape preparation and leveling since the farm will be irrigated using gravity.

Kour Farm – Mount Lebanon

The Kour farm has been cancelled since the local community lacks the means to contribute and participate in the program. It has been relocated to Bater with different production types and purposes.

Bater Farm – Mount Lebanon

Bater is a possible location for establishing a farm for the production of Damask Roses and Wild Origanum. This farm is considered a replacement of the Kour Farm cancelled earlier. The produce of these plants will be distilled in order to extract essential oils.

Bater is a boundary village between the cazas of Shouf and Jezzine. It is at 800m of altitude, abundant in water resources and highly fertile. Contacts with the local community have been established. People expressed their interest and willingness to participate in and contribute towards the program. A plot was identified and a group of women was formed to work later in the farm. Negotiations are ongoing now to sign the legal papers to lease the land and contribute in cash or kind to the program's implementation.

4. Formation of Cooperatives

Forming women cooperatives is an essential cornerstone in the program's implementation. Ownership of the production farms and processing centers lies in the hands of a legal entity rather than of a particular member of the community. People come and go; yet, the legal entity remains guaranteeing one sustainability aspect of the program.

14 cooperatives were formed. The necessary documents and legal papers have been submitted for nine centers aiming at establishing nine additional coops. The formation of these coops awaits a governmental administrative decision.

Table 5 – Formed and Ongoing Cooperatives

Center	Cooperative
Deir el Ahmar	on going
El Ain	coop
Fakiha	coop
Fourzol	coop
Mansourah	coop
Mhaydseh	coop
Wadi el Arayesh	coop
Kartaba	on going
Kfardeblian	on going
Beit el Fakess	on going
Beit Shlela	ongoing
Kfarhelda	ongoing
Tekrit	coop
Zghorta	coop
Ain Ebel	coop
Arnoun	coop
Debel	on going
Kfarsyr	on going
Khelwat	association
Ksaybeh	coop
Deir Qanoun el Naher	coop
Deir Qanoun Ras el Ain	on going
Dhaira	coop
Rural Delight	coop

5. Upgrading and Installation of Food Processing Equipment

Currently, eleven centers are in the process of being equipped. Specifications are being finalized, local and international suppliers were identified, and the bid documents are prepared to be released. The task of equipping the centers is a highly delicate matter since specifications need to abide by and reflect major concerns related to food safety, operational characteristics and processing nature. As such, equipment has to comply with food safety standards taking in consideration the material used in manufacturing and the required HACCP specification. Furthermore, operational characteristics take into account the processing capacity of the machine, its usage safety and most importantly the number of women required to operate the machine. Therefore even though fully automated units might suit the purposes of an industry, they would definitely not suit the aims of creating job opportunities for the women in the program since such machines usually only require one person to press a button. Moreover the technical specifications sometimes are hard to set because of the nature of the processing line that requires specially designed machines not readily available on the market, just like olive pit removal machines.

Table 6 – Centers Being Equipped

Center	Upgrading and Installation of Equipment
Fakiha	Ongoing
Wadi el Arayesh	Ongoing
Beit el Fakess	Ongoing
Beit Shelala	Ongoing
Arnoun	Ongoing
Ksaybeh	Ongoing
Deir Qanoun el Naher	Ongoing
Dhaira	Ongoing
Wadi Chahrour	Ongoing

6. Marketing Support to the Cooperatives

The YMCA recognizes the need to strengthen the marketing capacities of the production centers at the cooperative level. In addition to the extensive training on marketing, sales and business management that the women receive, the SMART program has identified marketing consultants who will begin the process of developing individually tailored marketing strategies for each cooperative which applies for assistance. These strategies will be aimed at identifying local and regional marketing and sales outlets for each cooperative and will create direct linkages for them with potential buyers.

In addition to the marketing plans, SMART has recently engaged the services of an advertising consultant to assist several production cooperatives to identify a name for their products and design labels for packaging. These strategies are aimed at building the capacity of the individual cooperatives to sell their products independently of Atayeb al Rif and thus learn the tools of the trade that will increase their sales and income.

7. Building the Capacity of Atayeb Al Rif Marketing Cooperative

The process of building the capacity of Atayeb al Rif is currently two-pronged. At one level, efforts are focused on ensuring that Atayeb al Rif provides value-added services to the cooperatives and fulfills its role as an extension service to the coops. During the last two months, these value-added services have been expanded to include reformulation of recipes according to more exact and scientific means. The SMART program has engaged the services of a food technology consultant for a specified period to improve all the recipes and develop standardized formulas that will ensure a consistently high quality. These formulas require the use of testing instruments to measure salt, sugar, acidity, and consistency at specified intervals. These tests ensure that the products are always produced to specifications and are tasty, safe and highly marketable.

A professional marketing and sales consultant has also been retained for a period of 6 months to develop a strategy for increased sales and establish the basis for exports of the cooperatives' products.

Additionally, Atayeb al Rif has come to an agreement and will soon sign a contract with Daccache Green Line for the distribution of Atayeb al Rif's products. The contract specifies a minimum sales volume of US\$500,000 for the first year and US\$1,000,000 for the second year. Atayeb al Rif has been working with Daccache for the last 2 months and is the sole supplier for their line of processed mouneh which is sold in Daccache stores under the name of "Rayaheen".

Atayeb al Rif has just concluded preliminary negotiations for a US\$70,000 shipment of its products to the USA. This new buyer has shown great interest in working with the cooperative and boosting the many centers' sales.

ANNEX

HACCP Implementation

Example of a Reformulated Recipe

مربي قشر البوصفير

مواصفات المواد الأولية

المكونات	المواصفات
□ ليمون أبو صفير	قطر 6-7 سنتم يسمح ب5% خارج المواصفات
	(12 ليمونة = 2 كلغ)
• الماء	ماء الشرب
• حامض الليمون	مستعمل للأكل
• سكر	أبيض خالٍ من الشوائب والرطوبة

المقادير

المكونات	النسب
• ليمون أبو صفير	قشر 20% (80 كلغ ليمون)
• سكر	سكر 40%
• ماء	ماء 40%
• حامض الليمون	حامض الليمون 0.4% تقريباً لحموضة 3.5

80 كلغ ليمون حامض = 24 كلغ من المنتج النهائي أو حوالي 60 عبوة سعة 400 غ.

مراحل التصنيع	المنتج	الكمية	الحرارة	الوقت	نشادر الهيدروجين	المواد الصلبة الحلولة	النقاط الحرجة
تعريب الأحجام الكبيرة والصغيرة وإرجاع الغير المناسب منها إلى المورد	ليمون بوصفير	راجع المقادير	حرارة الغرفة				قطر 6-7 سنتم، يسمح ب5% خارج المواصفات

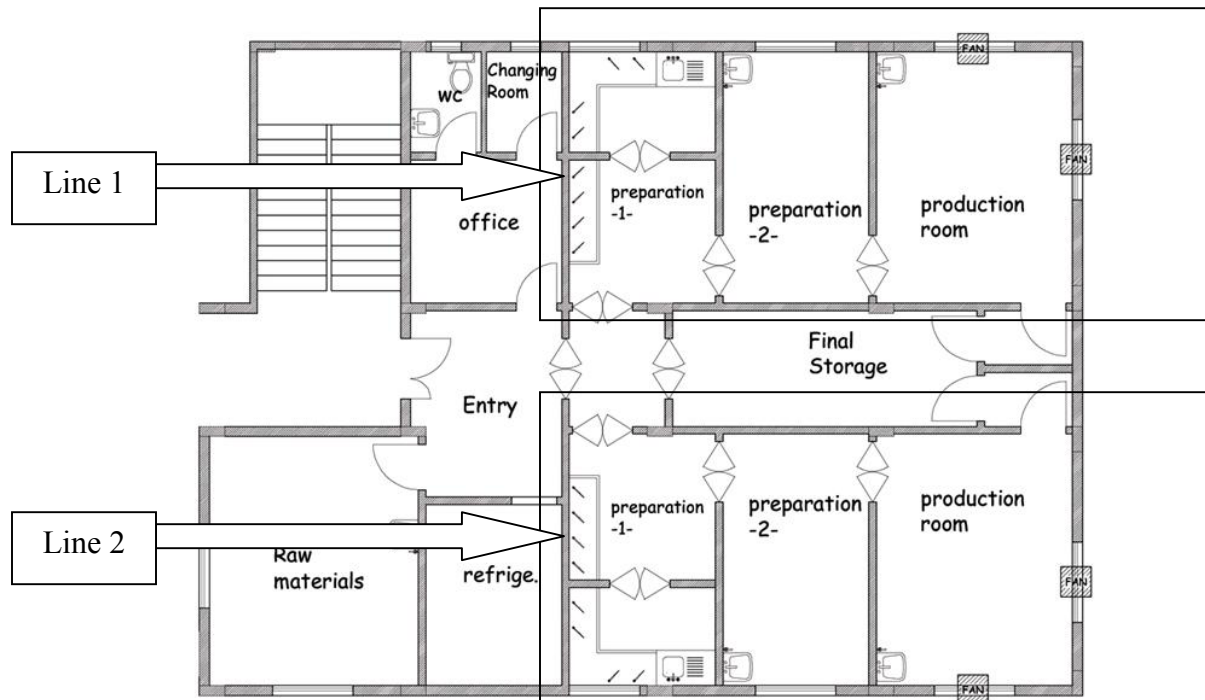
إستعمال مياه الشرب				حرارة الغرفة	راجع المقادير	ليمون بوصفير	الغسل (راجع مواصفات المواد الأولية خاصة فيما يخص الحجم، من المفروض أن يتراوح قطر الليمونة بين 6 و 7 سنتم)
يجب عدم إبقاء قشرة خارجية لأنها تظهر في المنتج النهائي				حرارة الغرفة	راجع المقادير	ليمون بوصفير	برش الليمون جيداً لإزالة القشرة الخارجية ذات اللون البرتقالي نهائياً دون الوصول إلى قشرة اللب البيضاء
التخلص من الثمرة الداخلية ووضع قطع القشر على الفور في الماء				حرارة الغرفة		ليمون بوصفير	شق القشرة المتبقية على الثمرة إلى 6 قطع قطر كل منها حوالي 3 سنتم ورفعها عن اللب
حافظ على القطع مغمورة بالمياه خلال عملية الغلي			دقائق 3	100 مئوية		قطع قشر البوصفير	الغلي الفوري المؤقت
				20 مئوية		قطع قشر البوصفير	مرحلة التبريد السريع للقطع
تستمر هذه العملية حتى زوال الطعم المر من القشر (نقع متواصل حوالي 20 إلى 30 ساعة تقريباً)			5 ساعات كل في مرة	حرارة الغرفة	مرات 4-6	قطع قشر البوصفير	مرحلة النقع لتحلية القطع
			5 ساعات	حرارة الغرفة	مرة أخيرة	قطع قشر البوصفير	تذوق طعم القشر وإذا لزم النقع

مرحلة تنشيف القطع	قطع قشر البوصفير	لزوال الماء من القطع نهائياً				إضغط على القطع بالأصابع لإزالة ما تبقى من الماء في داخلها وأخيراً بواسطة محارم ورقية
تحضير القطر	لكل مقدارين بالحجم من السكر مقدار من الماء	راجع المقادير	100 مئوية	دقائق 5	65%	أنتبه إلى نسبة المواد الصلبة الحلولة بإستعمال refractometer وإذا لزم زيادة السكر
لف قطع القشر وإدخالها بخيط بواسطة الإبرة	قطع قشر البوصفير	كل خيط 1 كلغ من القشر الملفوف				لف القطع جيداً لتكون متشابهة
إغلي القطع المرصوفة على شكل عقد في القطر	قطع قشر البوصفير		100 مئوية	30 دقيقة	65%	إرفع القشوة عن الوجه خلال الغليان واحرص في المرحلة النهائية على أن يدخل القطر إلى قلب القطع لإكمال عملية الطبخ
ضبط الحموضة	حامض الليمون	ملعقة لكل 1 1/2 كلغ تقريباً			3.5	إستعمل جهاز pHmeter لكي تصل الحموضة إلى 3.5
تعقيم العبوات الزجاجية سعة 400 أو 800 غ عن طريق وضعها في الفرن	العبوات الزجاجية		80 مئوية	الوقت الكافي		

عملية التعبئة الساخنة إرفع عقد البوصفير من القطر بعد اكتمال نضوجه وضعه في وعاء فارغ وابدأ على الفور عملية التعبئة	قطع قشر البوصفير	قطعة في عبوة 16 400 غ	مئوية 90	الوقت الكافي	من المهم جداً تعبئة العبوات والبضاعة وهي ساخنة والإلتزام بدرجات الحرارة المذكورة للحصول على القدر الكافي من الضغط داخل العبوات
مراقبة الوزن الصافي بواسطة الميزان		قطعة في عبوة 16 400 غ و 32 قطعة في عبوة 800 غ	مئوية 90		إستعمل الميزن للتأكد من الوزن الصافي
إضافة القطر في العبوات حتى مسافة 6 إلى 8 مم من الغطاء، استعمل المسطرة لضبط هذه النقطة وأقلل الغطاء جيداً	القطر		مئوية 90	3.5	65% الإنتباه إلى المسافة بين المنتج والغطاء
التبريد السريع ضع العبوات المقفلة فوراً في وعاء من المياه الباردة الجارية	العبوات		مئوية 20 دقيقة	20	التأكد من أن المنتج أصبح بارداً
بسترة ضع العبوات في مغطس ماء مغلية	العبوات		مئوية 90 دقيقة	20	
تبريد سريع في المياه الباردة الجارية	العبوات		مئوية 20 دقيقة	20	

Example of a HACPP Center Design

This center is designed to accommodate two separate lines of production (two units of preparation and production rooms on the map) where each line will be prepared and processed in separate rooms. This separation is essential in order to avoid cross-product contamination, for instance between dairy products and meat.



Partition between the rooms (being production and processing) incorporates large windows which serve two purposes. First, observing and monitoring of processing or preparation can be done from outside the actual cooking space; hence, contamination from observers is avoided. Second, the windows facilitate the coordination between the various women groups working in preparation and production; communication is easier which makes production faster and less prone to accidents.

